Long-term impacts of environmental contaminants are 'generational game changer'

In the early 1960s, Annie Alowa, from the Yup'ik village of Savoonga on St. Lawrence Island, worked at the U.S. Air Force base at Northeast Cape on the island. Alowa also worked as a health aide.

Alowa began to see changes in the health challenges in her community after 1972, when the base on Northeast Cape closed after 20 years of operation. She saw cancers she had not seen before, lower birth-weight babies, and higher numbers of miscarriages. Those becoming ill depended upon berries, fish, and wildlife from the land and water. Alowa did not know the extent of the disposal of waste at Northeast Cape since the military did not make public the hazardous contaminants including miles of wire, transformers, fuels, heavy metals, asbestos, solvents, and polychlorinated biphenyls (PCBs) that it left behind in the nine-square mile area. But she suspected it was having an impact on the health of her community.

This article also appears in the Summer 2018 print edition.

Annie Alowa at a contaminated site on St. Lawrence Island. Alowa led the effort to get the U.S. Army Corps of Engineers to clean up Northeast Cape. She died from liver cancer in 1999. In 2016 she was inducted into the Alaska Women's Hall of Fame. Photo courtesy Alaska Community Action on Toxics.

"Our traditional foods are killing our people….But without our traditional foods, we die as a culture." — Vi Waghiyi

In 1998, Alowa, along with Pamela Miller, the founder of Alaska Community Action on Toxics (ACAT), met with the colonel of the U.S. Army Corps of Engineers (USACE) in Alaska and asked that the Corps clean up Northeast Cape. When the colonel dismissed her concerns, Alowa and Miller began a campaign to get Northeast Cape to the top of the priority list for cleanup. The USACE has spent $125 million on cleanup.

In 1999, Annie Alowa died from liver cancer.

▸ Unequal impacts

Since 1999, ACAT and Miller have been conducting community-based research — working with St. Lawrence Island community members and scientists from multiple universities to assess the impact that contaminants from the disposal of hazardous waste at Northeast Cape.

"We found that all people of St. Lawrence Island were experiencing elevated levels of PCBs," Miller said. These were seven to nine times higher than a person in the lower 48, and those who were closely associated with Northeast Cape had even higher levels, according to Miller. PCBs are known carcinogens and have been shown to affect reproductive systems.

In 2003, the Alaska Division of Public Health (ADPH) looked at ACAT data regarding higher levels of PCBs and concluded that "concentrations detected in St. Lawrence Island village residents are similar to other Alaska Native populations that have been assessed as well as to other arctic populations" (ADPH, 2003: 1). ADPH supported cleanup of Northeast Cape, but found that the known benefits of a diet rich in fish and marine mammals far outweighed "potential adverse health effects from contaminants found in those foods" (p. 1).

Environmental contaminants are a "generational game changer," according to Brian Bienkowski, editor of *Environmental Health News*. Those must vulnerable are unborn children and young children who can develop lasting impacts to their mental and physical development due to exposure to contaminants.

Not all people are impacted by environmental contaminants equally. "[F]ar too often minority and low-income communities and indigenous people are most vulnerable to environmental and public health challenges," according to Gina McCarthy, EPA administrator from 2013 to 2017.

▸ Corps is not a health agency

"We're not a health agency," Lisa Geist, Acting Formerly Used Defense Sites Program Manager for the Army Corps of Engineers in Alaska said. "We can't evaluate direct health impacts, that's for other agencies."

The Corps finished remediation at Northeast Cape and is now in the long-term management stage, doing periodic sampling and reviews, according to Geist. "We've been very successful out there. We've had a lot of interest from the local community and local tribes because they would have liked us to do more," she added. "Not everyone is happy with what we do. People want it to go to zero and we're not able to do that."

▸Health evaluation requested

The Agency for Toxic Substances and Disease Registry (ATSDR) evaluates public health issues related to the National Priorities List sites and may conduct public health assessments when petitioned.

The Native Village of Savoonga requested a public health assessment and recommendations for actions needed to reduce exposure to chemicals at Northeast Cape. Residents continue to use the site as a seasonal fishing camp and would like to re-establish the Native Village of Northeast Cape. ATSDR issued its report in July 2017 and found that eating fish from the summer season is not expected to harm people's health; that eating berries and greens year-round is not expected to harm people's health; and accidentally ingesting soils for half of the year and drinking Suqitughneq (Suqi) River surface water year-round are not expected to harm health.

The report concluded that "there is not enough contact with site contaminants to suggest that exposures are contributing to cancer and birth defect rates" (ATSDR, 2017: vi).

While, ATSDR recommended that community members continue to eat fish and marine mammals from their traditional fishing grounds because of the "health and cultural benefits," community members do not feel it is safe.

"Our traditional foods are killing our people…. But without our traditional foods, we die as a culture," Vi Waghiyi, told a *New York Times* reporter in 2015 (Johnson, 2015). In her extended family, five people have been diagnosed with cancer. Waghiyi is a Savoonga resident, Environmental Health and Justice Program Director for ACAT, and serves as National Advisory Environmental Health Science Council member for the National Institutes of Health.

Residents of St. Lawrence Island describe a cancer crisis, according to Miller. They are conducting a community cancer registry. They are also witnessing reproductive health problems, neurobehavioral development problems, and birth defects. "We believe that PCBs can cause these things, but it is very difficult to show cause and effect," she added. The standards for cleanup are not protective.

There's a lot of bias in environmental monitoring, selective testing, and no peer review of findings in cleanup reports, according to Miller. Communities need to be a "squeaky wheel" to get their concerns addressed.

Most remote communities do not have the resources to do independent testing, monitoring, and research studies to evaluate their environmental health or push for cleanup, similar to what is being done by the St. Lawrence Island community.

▸Protecting future generations

The disproportionate impact of environmental contaminants and their long-term effects on minority and low-income communities and indigenous people, including Alaska Natives, is well known. The EPA's Environmental Justice Program celebrated its 25th anniversary in 2017. The EPA defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

However, there is concern that current regulatory measures, both federal and state, are unable to adequately address the future impacts of contaminants. The Science and Environmental Health Network (SEHN) and the International Human Rights Clinic at Harvard Law School, citing respect for future generations of indigenous cultures around the world, and a duty to all people, are working to develop models for protecting the environment for future generations, including developing model statutes and constitutional provisions (SEHN, 2008).

Aerial view of the former Northeast Cape Headquarters facility. The buildings were removed and disposed off-island in 2003. U.S. Army Corps of Engineers (n.d.) via Wikimedia Commons (21 Mar 2007).

▸References

Agency for Toxic Substances and Disease Registry (ATSDR). (2017). *Health Consultation: Public Comment Version — Northeast Cape Formerly Used Defense Site (FUDS), St. Lawrence Island, Alaska*. Atlanta, GA: U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Division of Community Health Investigations. (https://www.atsdr.cdc.gov/HAC/pha/northeasterncape/NE_Cape_FUDS_HC_PC_07-24-2017_508.pdf).

Alaska Department of Environmental Conservation (DEC). (2013). "Northeast Cape & Gambell Formerly Used Defense Sites" (website). Updated 2 Oct 2013. Alaska Department of Environmental Conservation, Division of Spill Prevention and Response. (https://dec.alaska.gov/spar/csp/sites/st-lawrence/).

Alaska Division of Public Health (ADPH). (2003). "PCB Blood Test Results from St. Lawrence Island: Recommendations for Consumption of Traditional Foods." *State of Alaska Epidemiology Bulletin* 7(1) (6 Feb 2003). (http://epibulletins.dhss.alaska.gov/Document/Display?DocumentId=472).

Johnson, Kirk. (3 Aug 2015). "Cleaning up a Legacy of Pollution on an Alaskan Island."

New York Times, p. A12. (https://www.nytimes.com/2015/08/04/us/native-alaskans-study-and-clean-up-a-legacy-of-pollution.html).

Science and Environmental Health Network (SEHN). (2008). "Model Laws and Proposals" (website). Updated 2018. Eugene, OR: Science and Environmental Health Network. Retrieved 26 Jun 2018. (http://sehn.org/model-laws-and-proposals/).

U.S. Army Corps of Engineers. (n.d.). "Former Northeast Cape Air Force Station on St. Lawrence Island" (photograph). U.S. Army Corps of Engineers Digital Visual Library via Wikimedia Commons (21 Mar 2007). (https://commons.wikimedia.org/wiki/File:White_Alice_site_St_Lawrence_Island.jpg).